

\* SWBAT define and apply momentum

Sep 6-2:31 PM

**Welcome!!!**

H. Leslie Grebe

\* Pick up:  
- slip of paper (for later)

**Opening Questions:**

A civil war soldier sees a cannon ball slowly rolling past him.  
He sticks out his foot to stop it.

What do you think happened? Why?

**CRUSHED HIS FOOT**  
**MOMENTUM**

Centering...

<http://www.wired.com/2011/12/mythbusters-cannonball-map/>

**Mythbusters' Cannonball Run**

Alameda Bomb Range

Through front door, out 2nd floor bedroom of sleeping family

Blasts across busy road

Roof tiles demolished

Smashes through window of just-parked van, and finally stops.

Compliments of PerceptionBuilder.com

Sep 7-7:04 AM

<sup>IN THE CUP</sup>  
Penny, card and cup

↳ INERTIA IS MATTER RESISTING CHANGE

"Newton's Cradle"

MOMENTUM = MASS · VELOCITY

MOMENTUM: INERTIA IN MOTION

CONSERVATION OF MOMENTUM  
TOTAL MOMENTUM STAYS THE SAME

Basketball drop

$$\text{BASKETBALL} \quad M \cdot v = m \cdot V \quad \text{TENNIS BALL}$$

Dec 7-7:51 AM

INERTIA IS MATTER RESISTING CHANGE

MASS IS A MEASURE INERTIA

Momentum is... INERTIA IN MOTION

MOMENTUM = MASS · SPEED

CONSERVATION: TOTAL MOMENTUM  
(BEFORE VS. AFTER) STAYS THE SAME

Worksheet...

$$240 \frac{\text{kg} \cdot \text{m}}{\text{s}} = 120 \text{kg} \cdot \text{SPEED}$$

Dec 7-7:51 AM

### Daily 3 Questions

- \* Every day except test/project days
- \* 3 Questions on the topics of the day
- \* Main source of daily points
- \* I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your **NAME!!!**

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. What happened to the small ball when it was **on top of** the basketball (compared to dropping JUST the basketball)?
  - A. It did not bounce up as much as just the basketball
  - B. It bounced up about the same
  - C. It bounced higher than just the basketball**
2. Momentum is...
  - A. a push or a pull
  - B. work over time
  - C. inertia in motion**
3. Conservation of momentum means total momentum **STAYS the SAME**.

Dec 2-7:55 AM